

PATENT COOPERATION TREATY

PCT

REC'D 07 AUG 2001

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

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| Applicant's or agent's file reference E19690 RL/JB | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/NO00/00079 | International filing date (day/month/year) 06/03/2000 | Priority date (day/month/year) 08/03/1999 |
| International Patent Classification (IPC) or national classification and IPC A23K3/03 | | |
| Applicant NORSK HYDRO ASA et al. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

| | |
|---|---|
| Date of submission of the demand 05/10/2000 | Date of completion of this report 03.08.2001 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized officer Couzy, F Telephone No. +49 89 2399 7503  |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NO00/00079

I. Basis of this report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-5 as published

Claims, No.:

1-13 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO00/00079

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|------|--------|------------------|
| Novelty (N) | Yes: | Claims | 3-4, 6-7, 9-12 |
| | No: | Claims | 1-2, 5, 8, 13 |
| Inventive step (IS) | Yes: | Claims | 7, 11 |
| | No: | Claims | 3-4, 6, 9-10, 12 |
| Industrial applicability (IA) | Yes: | Claims | 1-13 |
| | No: | Claims | |

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NO00/00079

R Item V

Reasoned statement under Article 35 (2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.1 Reference is made to the following documents:

D1: SU-A1-1449095

D2: CN-A-1059454

D3: US-A-4915876

D4: WO-A1-9937168

D5: SE-B-455754

D6: 'CAN. J. ANIM. SCI.',",78/4/00-00-1998,633-640,

D7: 'Production and use of fish','JENSEN PREBEN MOELLER.','STN
INTERNATIONAL','FILE CAPLUS',ACC. NO. 1975:546002, DOC. NO.
83:146002,

D8: US-A-4592915

V.2 The subject-matter of claims 1-2, 5, 8, 13 is not new in the sense of Art. 33 (2) PCT, and the subject-matter of claims 3-4, 6, 9-10, and 12 does not involve an inventive step in the sense of Art. 33 (3) PCT.

V.2.1 Indeed, document D1 discloses a silage additive comprising 38-42% formic acid and 1.5-2.5% BHT (described by the trade mark "Agidol"). Thus, the subject-matter of claims 1, 2, 5, 8, and 13 is not new in light of D1 alone.

Document D5 also appears to disclose additives for the preservation of animal feed comprising short chain carboxylic acids and BHT (see examples 1 and 12a on p.11 and 13, as well as the last paragraph of p.8).

V.2.2 The subject-matter of claims 3, 9 and 10 differs from what is disclosed in D1 by the fact that a higher concentration range for the dicarboxylic acid is selected (60-100% vs. 38-42% in D1). No unexpected effect linked to that new concentration range is disclosed, thus the subject-matter of said claims 3, 9 and 10 does not involve an inventive step.

V.2.3 The use of alternative short chain carboxylic acid for the preservation of products,

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NO00/00079

including "nutritional ingredients", can be derived from D2, which discloses propionic acid, and the use of alternative antioxidants from D3 (claims 11 and 25). The Demande does not mention unexpected effects linked to the use of these compounds. Therefore, the subject-matter of claims 4, and 6 does not appear to involve an inventive step.

V.2.4 Since the subject-matter of claim 13 is not new, but is also certainly applicable to fish silage unless the applicant shows the contrary, subject-matter of claim 12 does not involve an inventive step.

V.2.5 It seems that since the application reveals an unexpected effect of combining BHA and BHT with a short chain carboxylic acid (description p.3 li.4-5), and that additives comprising these three compounds are not disclosed in the available prior art documents, **this finding could serve as a basis for claims, the subject-matter of which would be new and involve an inventive step.**

V.3 The subject-matter of all claims is industrially applicable in the sense of Art. 33 (4) PCT.

Re Item VII

Certain defects in the international application

VII.1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D3 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application

VIII.1 The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT. Namely, the features of claims 1 and 8 (gallates in general vs. propyl gallate on p.2 li.19 and 24), 3, 4, 5, 9, and 10 are not present in the description and should be inserted therein.

PATENT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

SANDBU, Elisabeth, Dahl
Norsk Hydro ASA
N-0240 Oslo
NORVÈGE

| Til | Patentavd. | PCT/NO00/00079 | bearb. | Sett | Eksp. |
|-----|----------------|----------------|--------|------|-------|
| | Alnaes | | | | |
| | Anderson | | | | |
| | Berg | | | | |
| | Dahl Sandhu | | | | |
| | Doorduyn | | | | |
| | Hammer | | | | |
| | Hanshaugen | | | | |
| | Hofseth | | | | |
| | Hovland | | | | |
| | Johnson | | | | |
| | Kristiansen | | | | |
| X | Lokke-Sorensen | | | V | @ |
| | Ricanek | | | | |
| | Sundnes | | | | |

Bevart (date)

Sign.

IMPORTANT NOTICE

| | | |
|--|--|--|
| Date of mailing (day/month/year) 14 September 2000 (14.09.00) | | |
| Applicant's or agent's file reference P9923 | | |
| International application No. PCT/NO00/00079 | International filing date (day/month/year) 06 March 2000 (06.03.00) | Priority date (day/month/year) 08 March 1999 (08.03.99) |
| Applicant NORSK HYDRO ASA et al | | |

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

AU,KP,KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CR,CU,CZ,DE,DK,DM,EA,EE,EP,ES,FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,MG,MK,MN,MW,MX,NO,NZ,OA,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,UZ,VN,YU,ZA,ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 14 September 2000 (14.09.00) under No. WO 00/53033

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

| | |
|---|------------------------------------|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland | Authorized officer J. Zahra |
| Facsimile No. (41-22) 740.14.35 | Telephone No. (41-22) 338.83.38 |

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF
THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

| | |
|---|--|
| Date of mailing (day/month/year) 14 September 2000 (14.09.00) | IMPORTANT NOTICE |
| Applicant's or agent's file reference P9923 | International application No. PCT/NO00/00079 |
| <p>The applicant is hereby notified that, at the time of establishment of this Notice, the time limit under Rule 46.1 for making amendments under Article 19 has not yet expired and the International Bureau had received neither such amendments nor a declaration that the applicant does not wish to make amendments.</p> | |

1 - 692 2000

P9923 PCT

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF RECEIPT OF
RECORD COPY

(PCT Rule 24.2(a))

To:

SANDBU, Elisabeth, Dahl
Norsk Hydro ASA
N-0240 Oslo
NORVÈGE

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X

V Ewa
V GMS

| | |
|--|---|
| Date of mailing (day/month/year) 05 April 2000 (05.04.00) | IMPORTANT NOTIFICATION |
| Applicant's or agent's file reference P9923 | International application No. PCT/NO00/00079 |

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

NORSK HYDRO ASA (for all designated States except US)
AASBØ, Kari et al (for US)

International filing date : 06 March 2000 (06.03.00)

Priority date(s) claimed : 08 March 1999 (08.03.99)

Date of receipt of the record copy
by the International Bureau : 22 March 2000 (22.03.00)

List of designated Offices :

AP : GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW
EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
National : AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
ZW

ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase
☐ confirmation of precautionary designations
☐ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer:

J. Leitao

Facsimile No. (41-22) 740.14.35

Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

SANDBU, Elisabeth, Dahl
Norsk Hydro ASA
N-0240 Oslo
NORVÈGE

| | |
|--|--|
| Date of mailing (day/month/year) 05 April 2000 (05.04.00) | |
| Applicant's or agent's file reference P9923 | IMPORTANT NOTIFICATION |
| International application No. PCT/NO00/00079 | International filing date (day/month/year) 06 March 2000 (06.03.00) |
| International publication date (day/month/year) Not yet published | Priority date (day/month/year) 08 March 1999 (08.03.99) |
| Applicant NORSK HYDRO ASA et al | |

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

| <u>Priority date</u> | <u>Priority application No.</u> | <u>Country or regional Office or PCT receiving Office</u> | <u>Date of receipt of priority document</u> |
|-------------------------|---------------------------------|---|---|
| 08 Marc 1999 (08.03.99) | 19991111 | NO | 22 Marc 2000 (22.03.00) |

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

J. Leitao

Telephone No. (41-22) 338.83.38

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receipt Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) P9923

Box No. I TITLE OF INVENTION

A new silage aid, process for preparing this silage aid and use of this silage aid

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

NORSK HYDRO ASA
N-0240 Oslo
Norway

☐ This person is also inventor.

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+47 22 43 21 00

Facsimile No.
+47 22 43 27 25

Teleprinter No.

State (that is, country) of nationality:
NO

State (that is, country) of residence:
NO

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

AASBØ, Kari
Børsesjøveien 181
N-3719 Skien
Norway

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:
NO

State (that is, country) of residence:
NO

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent ☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

SANDBU, Elisabeth Dahl
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Norway

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Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

| | |
|--|--|
| Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S) | |
| <i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i> | |
| Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> BREIVIK, Harald Uranusveien 22, N-3942 Skjelsvik Norway | This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only <i>(If this check-box is marked, do not fill in below.)</i> |
| State <i>(that is, country)</i> of nationality: NO | State <i>(that is, country)</i> of residence: NO |
| This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box | |
| Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> | This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only <i>(If this check-box is marked, do not fill in below.)</i> |
| State <i>(that is, country)</i> of nationality: | State <i>(that is, country)</i> of residence: |
| This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box | |
| Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> | This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only <i>(If this check-box is marked, do not fill in below.)</i> |
| State <i>(that is, country)</i> of nationality: | State <i>(that is, country)</i> of residence: |
| This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box | |
| Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> | This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only <i>(If this check-box is marked, do not fill in below.)</i> |
| State <i>(that is, country)</i> of nationality: | State <i>(that is, country)</i> of residence: |
| This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box | |
| Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> | This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only <i>(If this check-box is marked, do not fill in below.)</i> |
| State <i>(that is, country)</i> of nationality: | State <i>(that is, country)</i> of residence: |
| This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box | |
| <input type="checkbox"/> Further applicants and/or (further) inventors are indicated on another continuation sheet. | |

Box No. V DESIGNATION OF STATE

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | |
|--|--|
| <input checked="" type="checkbox"/> AE United Arab Emirates | <input checked="" type="checkbox"/> LR Liberia |
| <input checked="" type="checkbox"/> AL Albania | <input checked="" type="checkbox"/> LS Lesotho |
| <input checked="" type="checkbox"/> AM Armenia | <input checked="" type="checkbox"/> LT Lithuania |
| <input checked="" type="checkbox"/> AT Austria | <input checked="" type="checkbox"/> LU Luxembourg |
| <input checked="" type="checkbox"/> AU Australia | <input checked="" type="checkbox"/> LV Latvia |
| <input checked="" type="checkbox"/> AZ Azerbaijan | <input checked="" type="checkbox"/> MA Morocco |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina | <input checked="" type="checkbox"/> MD Republic of Moldova |
| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> MG Madagascar |
| <input checked="" type="checkbox"/> BG Bulgaria | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BR Brazil | |
| <input checked="" type="checkbox"/> BY Belarus | <input checked="" type="checkbox"/> MN Mongolia |
| <input checked="" type="checkbox"/> CA Canada | <input checked="" type="checkbox"/> MW Malawi |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> MX Mexico |
| <input checked="" type="checkbox"/> CN China | <input checked="" type="checkbox"/> NO Norway |
| <input checked="" type="checkbox"/> CR Costa Rica | <input checked="" type="checkbox"/> NZ New Zealand |
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| <input checked="" type="checkbox"/> DE Germany | <input checked="" type="checkbox"/> RO Romania |
| <input checked="" type="checkbox"/> DK Denmark | <input checked="" type="checkbox"/> RU Russian Federation |
| <input checked="" type="checkbox"/> DM Dominica | <input checked="" type="checkbox"/> SD Sudan |
| <input checked="" type="checkbox"/> EE Estonia | <input checked="" type="checkbox"/> SE Sweden |
| <input checked="" type="checkbox"/> ES Spain | <input checked="" type="checkbox"/> SG Singapore |
| <input checked="" type="checkbox"/> FI Finland | <input checked="" type="checkbox"/> SI Slovenia |
| <input checked="" type="checkbox"/> GB United Kingdom | <input checked="" type="checkbox"/> SK Slovakia |
| <input checked="" type="checkbox"/> GD Grenada | <input checked="" type="checkbox"/> SL Sierra Leone |
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| <input checked="" type="checkbox"/> GH Ghana | <input checked="" type="checkbox"/> TM Turkmenistan |
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| <input checked="" type="checkbox"/> HR Croatia | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> HU Hungary | <input checked="" type="checkbox"/> TZ United Republic of Tanzania |
| <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> IL Israel | <input checked="" type="checkbox"/> UG Uganda |
| <input checked="" type="checkbox"/> IN India | <input checked="" type="checkbox"/> US United States of America |
| <input checked="" type="checkbox"/> IS Iceland | |
| <input checked="" type="checkbox"/> JP Japan | <input checked="" type="checkbox"/> UZ Uzbekistan |
| <input checked="" type="checkbox"/> KE Kenya | <input checked="" type="checkbox"/> VN Viet Nam |
| <input checked="" type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> YU Yugoslavia |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> ZA South Africa |
| | <input checked="" type="checkbox"/> ZW Zimbabwe |
| <input checked="" type="checkbox"/> KR Republic of Korea | Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet: |
| <input checked="" type="checkbox"/> KZ Kazakhstan | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> LC Saint Lucia | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> LK Sri Lanka | |

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

| Box No. VI PRIORITY CLAIM | | <input type="checkbox"/> Further priority claims indicated in the Supplemental Box. | | |
|---|----------------------------------|--|---|--|
| Filing date of earlier application (day/month/year) | Number of earlier application | Where earlier application is: | | |
| | | national application: country | regional application:* regional Office | international application: receiving Office |
| item (1) 8 March 1999 | 19991111 | NO | | |
| item (2) | | | | |
| item (3) | | | | |
| <input checked="" type="checkbox"/> The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1 | | | | |
| <small>* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.</small> | | | | |
| Box No. VII INTERNATIONAL SEARCHING AUTHORITY | | | | |
| Choice of International Searching Authority (ISA) <small>(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):</small> | | Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority): | | |
| ISA / SE | | Date (day/month/year) Number Country (or regional Office) | | |
| Box No. VIII CHECK LIST; LANGUAGE OF FILING | | | | |
| This international application contains the following number of sheets: request : 4 description (excluding sequence listing part) : 5 claims : 2 abstract : 1 drawings : 0 sequence listing part of description : 0 Total number of sheets : 12 | | This international application is accompanied by the item(s) marked below: 1. <input checked="" type="checkbox"/> fee calculation sheet 2. <input type="checkbox"/> separate signed power of attorney 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: 4. <input type="checkbox"/> statement explaining lack of signature 5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): 6. <input type="checkbox"/> translation of international application into (language): 7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material 8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form 9. <input type="checkbox"/> other (specify): | | |
| Figure of the drawings which should accompany the abstract: | | Language of filing of the international application: English | | |
| Box No. IX SIGNATURE OF APPLICANT OR AGENT | | | | |
| <small>Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).</small> | | | | |
| Elisabeth Dahl Sandbu  | | | | |

| | |
|--|--|
| For receiving Office use only | |
| 1. Date of actual receipt of the purported international application: 3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application: 4. Date of timely receipt of the required corrections under PCT Article 11(2): 5. International Searching Authority (if two or more are competent): ISA / | 2. Drawings: <input type="checkbox"/> received: <input type="checkbox"/> not received: 6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid. |

| |
|---|
| For International Bureau use only |
| Date of receipt of the record copy by the International Bureau: |

TENT COOPERATION TRE, Y

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

LILLEGRAVEN, Rita
Bryns Zacco AS
P.O. Box 765
Sentrum
N-0106 Oslo
NORVÈGE

| | |
|--|--|
| Date of mailing (day/month/year) 04 September 2001 (04.09.01) | IMPORTANT NOTIFICATION |
| Applicant's or agent's file reference P9923 | |
| International application No. PCT/NO00/00079 | International filing date (day/month/year) 06 March 2000 (06.03.00) |

| | | | | | | | | | |
|---|--|--|---|--|---|---|--|-----------------|--|
| 1. The following indications appeared on record concerning: | | | | | | | | | |
| <input type="checkbox"/> the applicant | <input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative | | | | | | | | |
| Name and Address SANDBU, Elisabeth, Dahl Norsk Hydro ASA N-0240 Oslo Norway | <table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. +47 22 53 27 39</td> </tr> <tr> <td colspan="2">Facsimile No. +47 22 53 23 08</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table> | State of Nationality | State of Residence | Telephone No. +47 22 53 27 39 | | Facsimile No. +47 22 53 23 08 | | Teleprinter No. | |
| State of Nationality | State of Residence | | | | | | | | |
| Telephone No. +47 22 53 27 39 | | | | | | | | | |
| Facsimile No. +47 22 53 23 08 | | | | | | | | | |
| Teleprinter No. | | | | | | | | | |
| 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: | | | | | | | | | |
| <input checked="" type="checkbox"/> the person <input type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence | | | | | | | | | |
| Name and Address LILLEGRAVEN, Rita Bryns Zacco AS P.O. Box 765 Sentrum N-0106 Oslo Norway | <table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. +47 22 91 04 00</td> </tr> <tr> <td colspan="2">Facsimile No. +47 22 91 05 00</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table> | State of Nationality | State of Residence | Telephone No. +47 22 91 04 00 | | Facsimile No. +47 22 91 05 00 | | Teleprinter No. | |
| State of Nationality | State of Residence | | | | | | | | |
| Telephone No. +47 22 91 04 00 | | | | | | | | | |
| Facsimile No. +47 22 91 05 00 | | | | | | | | | |
| Teleprinter No. | | | | | | | | | |
| 3. Further observations, if necessary: | | | | | | | | | |
| 4. A copy of this notification has been sent to: | | | | | | | | | |
| <table border="0"> <tr> <td><input checked="" type="checkbox"/> the receiving Office</td> <td><input type="checkbox"/> the designated Offices concerned</td> </tr> <tr> <td><input type="checkbox"/> the International Searching Authority</td> <td><input checked="" type="checkbox"/> the elected Offices concerned</td> </tr> <tr> <td><input checked="" type="checkbox"/> the International Preliminary Examining Authority</td> <td><input checked="" type="checkbox"/> other: SANDBU, Elisabeth, Dahl</td> </tr> </table> | | <input checked="" type="checkbox"/> the receiving Office | <input type="checkbox"/> the designated Offices concerned | <input type="checkbox"/> the International Searching Authority | <input checked="" type="checkbox"/> the elected Offices concerned | <input checked="" type="checkbox"/> the International Preliminary Examining Authority | <input checked="" type="checkbox"/> other: SANDBU, Elisabeth, Dahl | | |
| <input checked="" type="checkbox"/> the receiving Office | <input type="checkbox"/> the designated Offices concerned | | | | | | | | |
| <input type="checkbox"/> the International Searching Authority | <input checked="" type="checkbox"/> the elected Offices concerned | | | | | | | | |
| <input checked="" type="checkbox"/> the International Preliminary Examining Authority | <input checked="" type="checkbox"/> other: SANDBU, Elisabeth, Dahl | | | | | | | | |

| | |
|--|--|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35 | Authorized officer Beate GIFFO-SCHMITT Telephone No.: (41-22) 338.83.38 |
|--|--|

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

| | |
|--|--|
| Date of mailing (day/month/year) 09 November 2000 (09.11.00) | |
| International application No. PCT/NO00/00079 | Applicant's or agent's file reference P9923 |
| International filing date (day/month/year) 06 March 2000 (06.03.00) | Priority date (day/month/year) 08 March 1999 (08.03.99) |
| Applicant AASBØ, Kari et al | |

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 05 October 2000 (05.10.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

| | |
|---|---|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35 | Authorized officer Charlotte ENGER Telephone No.: (41-22) 338.83.38 |
|---|---|

PATENT COOPERATION TREATY

From the:

| | | | |
|--|-------------|--|--|
| | A. G. G. G. | | |
|--|-------------|--|--|

INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

MOTTATT I
PATENTAVD.

21 MAI 2001

PCT

To:

SANDBU, Elisabeth Dahli
NORSK HYDRO ASA
N-0240 Oslo
NORVEGE

25/5-01

Kopi sendt Kan

WRITTEN OPINION

(PCT Rule 66)

Date of mailing
(day/month/year)

18.05.2001

Applicant's or agent's file reference 18/6

Sign.

REPLY DUE

within 1 month(s)

from the above date of mailing

International application No.
PCT/NO00/00079

International filing date (day/month/year)
06/03/2000

Priority date (day/month/year)
08/03/1999

International Patent Classification (IPC) or both national classification and IPC
A23K3/03

Applicant

NORSK HYDRO ASA et al.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain document cited
 - VII ☒ Certain defects in the international application
 - VIII ☒ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **08/07/2001**.

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer / Examiner

Couzy, F.

Formalities officer (incl. extension of time limits)
Götz, K
Telephone No. +49 89 2399 7381



I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, pages:

1-5 as originally filed

Claims, No.:

1-13 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

International application No. **PCT/NO00/00079**

International application No. PCT/NO00/00079

- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2. Citations and explanations
see separate sheet

The following defects in the form or contents of the international application have been noted:
see separate sheet

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.1 Reference is made to the following documents:

D1: SU-A1-1449095

D2: CN-A-1059454

D3: US-A-4915876

D4: WO-A1-9937168

D5: SE-B-455754

D6: ",'"CAN. J. ANIM. SCI.,'",78/4/00-00-1998,633-640,

D7: 'Production and use of fish','JENSEN PREBEN MOELLER.','STN
INTERNATIONAL','FILE CAPLUS',ACC. NO. 1975:546002, DOC. NO.
83:146002,

D8: US-A-4592915

V.2 The subject-matter of claims 1-3, 5, 8-10, 13 is not new in the sense of Art. 33 (2) PCT, and the subject-matter of claims 4, 6, and 12 does not appear to involve an inventive step in the sense of Art. 33 (3) PCT.

V.2.1 Indeed, document D1 discloses a silage additive comprising 58-60% formic acid and 1.5-2.5% BHT (described by the trade mark "Agidol"). Thus, subject-matter of claims 1, 2, 3, 5, 8-10, and 13 is not new in light of D1 alone.

Document D5 also appears to disclose additives for the preservation of animal feed comprising short chain carboxylic acids and BHT (see examples 1 and 12a on p.11 and 13, as well as the last paragraph of p.8).

V.2.2 The use of alternative short chain carboxylic acid can be derived from D2, which discloses propionic acid as a component of a silage preservative, and the use of alternative antioxidants from D3 (claims 11 and 25). Therefore, the subject-matter of claims 4, and 6 does not appear to involve an inventive step.

V.2.3 Since the subject-matter of claim 13 is not new, but is also certainly applicable to fish silage unless the applicant shows the contrary, subject-matter of claim 12 does not

involve an inventive step.

V.2.4 It seems that since the application reveals an unexpected effect of combining BHA and BHT with a short chain carboxylic acid (description p.3 li.4-5), and that additives comprising these three compounds are not disclosed in the available prior art documents, **this finding could serve as a basis for claims, the subject-matter of which would be new and involve an inventive step.**

Re Item VII

Certain defects in the international application

VII.1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document/s ..A.. is not mentioned in the description, nor is/are this/these document/s identified therein.

Re Item VIII

Certain observations on the international application

VIII.1 The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT. Namely, the features of claims 1 and 8 (gallates in general vs. propyl gallate on p.2 li.19 and 24), 3, 4, 5, 9, and 10 are not present in the description and should be inserted therein.

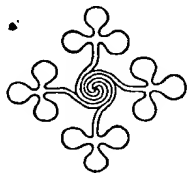
NB: In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, **the applicant is requested to clearly identify the amendments carried out**, no matter whether they concern amendments by addition, replacement or deletion, **and to indicate the passages of the application as filed on which these amendments are based** (see also Rule 66.8(a) PCT). **These indications should best be submitted in handwritten form on a copy of the relevant parts of the application as filed.**

**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/NO00/00079

The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. In particular, fair copies of the amendments should be filed preferably in triplicate.

Any information the applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as filed, should be confined to the letter of reply and not be incorporated into the application (Article 34(2)(b) PCT).



Bryns Patentkontor A/S

Formerly: Bryns Patentkontor A/S
Established 1877

Enterprise No. 982702887

TERJE M. HALMØ
President

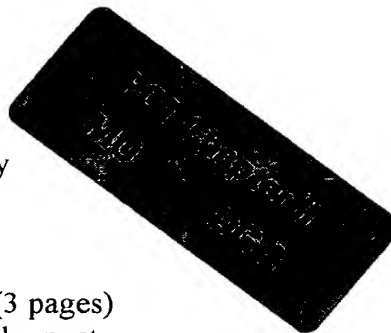
GUNNAR O. REISTAD
LARS BREVIC
JAN E. HELGERUD
SVEIN SOLEM
JENS F. C. LANGFELDT
HELGE STENSLAND
LIV T. O. MYRSTAD
PER VEGARD BERGHEIM
TONE TANGEVALD-JENSEN

Members of FICPI and the
Association of Norwegian
Patent Agents

ANDREAS LUNDE
JOHAN F. WESMANN
DORTE LAJER
OLAV BERGHEIM
EWY KRISTIANSEN
JON SVEINUNGEN
E. LEMBACH-BEYLEGAARD
ALEXANDER JURIGA
HANS LANGAN
RITA LILLEGRAVEN

The International Preliminary Examining Authority
European Patent Office
D-80298 Munich
GERMANY

By facsimile (3 pages)
Confirmation by post



18 June 2001

Your ref.:
Our ref.: P9923 RLI

International Patent Application No: PCT/NO00/00079 - Norsk Hydro ASA et al.

Dear Sirs,

With reference to the first written opinion dated May 18, 2001 we have the following comments:

D1: SU-A1-1449095

D1 relates to a silage preservative containing agidol, orthophosphoric acid, and formic acid. The fungicidal and bactericidal activities of the agidol-containing preservative for feed, and the quality of the feed, is improved by adding orthophosphoric acid and formic acid to the preservative. Thus, the compounds of the preservative are: agidol 56-60, formic acid 38-42, and orthophosphoric acid 1,5-2,5 wt. %.

This is what is quoted in the abstract of D1. Because of the quite short time for responding to this written opinion, there has not been possible to obtain a translation of the whole text of D1 into English. From the abstract of D1 it is difficult to fully understand what the subject matter of the disclosed invention really is.

Based on the abstract of D1, the Applicants of the present application disagree in that D1 destroy the novelty of the present claims. In the silage preservative disclosed in D1 orthophosphoric acid, in addition to formic acid and agidol, is an essential compound that always are present in the silage preservative. Agidol seems to be identical to 2,6-di-*tert*-butyl-4-methylphenol (BHT). The silage aid, process for preparation of the silage aid and use thereof as claimed in the claims of the present application, do not mention orthophosphoric acid at all. BHT and a short chain carboxylic acid that might be formic acid are indeed compounds that are included in the silage aid according to the present invention. However, we

| Postal Address | Office Address | Telephone | E-mail/Internet | Telefax | Bank Account | Post Office Account |
|--|---|-----------------|-------------------------------------|-----------------|--|---------------------|
| P.O.BOX 765 SENTRUM N-0106 OSLO NORWAY | KARL JOHANS GT. 25 N-0159 OSLO NORWAY | +47 22 91 04 00 | INFO@BRYNSPAT.NO WWW.BRYNSPAT.NO | +47 22 91 05 00 | 6001 05 66471 Kreditkassen Swift: XIANNOKK | 0814 5102678 |

cannot see that D1 is novelty destroying for the present application as long as orthophosphoric acid, which is an essential feature in D1, not at all is mentioned in the present application.

Furthermore, it seems to be a misprint in the written opinion with regard to the amounts of the compounds of the silage preservative of D1. In the abstract of D1, the amounts are 56-60 wt. % agidol, 38-42 wt. % formic acid, and 1,5-2,5 wt. % orthophosphoric acid.

In the present application it is an object to dissolve the antioxidants BHT, BHA, TBHQ, tocopherol and/or gallates. This object is obtained by dissolving the antioxidant(s) in at least one short chain carboxylic acid and optionally at least one salt of this acid. As given in claim 5, 0,1-10% of the antioxidant is dissolved in the short chain carboxylic acid.

It seems impossible that the high amount of agidol (56-60 wt. %) of the silage preservative in D1 could be dissolved in 38-42 wt % formic acid and 1,5-2,5% orthophosphoric acid. Therefore, it is reasonable to assume that the three compounds constituting the silage preservative in D1 are added separately and not as a solution. This is different from the present invention where the silage aid is a solution of the antioxidant(s) in the short chain carboxylic acid.

D5: SE-B-455754

✓ D5 relates to a process and a preservative for preserving of highly aqueous animal feed stuffs, particularly fish ensilage. The preservative contains one or more organic acids (acetic acid, formic acid), optionally one or more inorganic acids (phosphoric acid), an antioxidant (page 17, last paragraph: etoxyquine, BHT, BHA or TBHQ), a microcide (polyhexamethylenebiguanide (page 16, first paragraph: "Vantocil IB")), and if formic acid is not included, 8-hydroxyquinoline or a salt or a complex thereof is included. The microcide is an essential compound in the preservative according to D5. In a Regulation from the Norwegian Agricultural Supervision regarding feed products ("Forskrift om Fôrvarer" from Landbrukstilsynet) "Vantocil IB" is not registered; i.e. it is not approved. The same goes for the Regulations regarding additives to food, and fish feed ("Forskrifter om tilsetningstoffer til næringsmidler" and "Forskrift om fiskefôr"). These Regulations are harmonized with the European Union (EU). This means that the preservative according to D5 is not applicable in articles of food, which is a main object of the present invention.

D5 is thus not solving the problem as described in the present application, namely to provide a silage aid comprising a food approved antioxidant.

The present invention is because of the above given arguments, both novel and inventive over D5.

D2: CN-A-1059454

D2 is related to long-lasting fungicide compositions for feed preservation, where the preservatives consist of propionic acid and/or salts, dimethyl-fumarate and/or ethyl p-hydroxybenzoate, Na-enhancers containing sorbic acid and other substances.

According to our opinion, D2 is irrelevant over the present invention. The present invention is directed to a silage aid comprising of one or more food approved antioxidants in a solution. The inventors of the present invention surprisingly found that these antioxidants did dissolve in one or more short chain carboxylic acids like for instance propionic acid. The abstract of D2 is completely silent with regard to antioxidants. Propionic acid is known to have antifungal properties, and the function of the propionic acid in D2 does not seem to be a solvent, but an agent for inhibition of fungus growth.

D3: US-A-4915876

D3 is related to a deodorization process to realize highly polyunsaturated oils of enhanced stability. Step D. of this process as described in claim 1, describes adding antioxidants to the acidified, deodorized oil to form an acidified, deodorized, antioxidant loaded oil. That is; the antioxidants are dissolved in the oil. Furthermore, D3 is not mentioning anything about ensiling.

Therefore, D3 is not relevant to the present application in any way.

Conclusion

None of the references discussed by the Examiner in the first written opinion (D1, D5, D2 and D3) are anticipating the present invention either alone or taken together. The present application is fulfilling the requirements of novelty, inventive step and industrial applicability.

We would like to inform you that the Norwegian patent application no. 19991111 wherefrom the present application is claiming priority, was granted on April 2, 2001 with the same set of claims as in the present application. The patent number of this Norwegian Patent is 309796.

We hereby respectfully request that the above arguments are considered closely, and we look forward to receiving a positive IPER.

Finally, for your information, the undersigned has been asked by the applicants to act as their agent in the present case as Ms. Elisabeth Dahl Sandbu now has left the Corporate Patent and Trademark Department of Norsk Hydro ASA. A new Power of Attorney confirming this change of agent was filed with the Norwegian Patent Office on June 5, 2001.

Yours faithfully
BRYNS ZACCO AS


Rita Lillegraven



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| | | |
|---|-----------|--|
| (51) International Patent Classification ⁷ : A23K 3/03, 3/00 | A1 | (11) International Publication Number: WO 00/53033 (43) International Publication Date: 14 September 2000 (14.09.00) |
| (21) International Application Number: PCT/NO00/00079 (22) International Filing Date: 6 March 2000 (06.03.00) (30) Priority Data: 19991111 8 March 1999 (08.03.99) NO (71) Applicant (for all designated States except US): NORSK HYDRO ASA [NO/NO]; N-0240 Oslo (NO). (72) Inventors; and (75) Inventors/Applicants (for US only): AASBØ, Kari [NO/NO]; Børsesjøveien 181, N-3719 Skien (NO). BREIVIK, Harald [NO/NO]; Uranusveien 22, N-3942 Skjelsvik (NO). (74) Agent: SANDBU, Elisabeth, Dahl; Norsk Hydro ASA, N-0240 Oslo (NO). | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> |
| (54) Title: A NEW SILAGE AID, PROCESS FOR PREPARING THIS SILAGE AID AND USE OF THIS SILAGE AID | | |
| (57) Abstract This invention relates to a new silage aid, process for preparation of this silage aid and use of the silage aid. The silage aid comprises at least one antioxidant selected from the group 2,6-di- <i>tert</i> -butyl-4-methylphenol (BHT), 3- <i>tert</i> -butyl-4-hydroxyanisole (BHA), <i>tert</i> -butylhydroquinone (TBHQ), tocopherol and gallates; at least one short chain carboxylic acid; and optionally at least one salt of said acid. These antioxidants are food approved. The present silage aid is useful for preservation of organic by-products, and particularly for protection of fish oil during a fish silage process. | | |

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 00/00079

| A. CLASSIFICATION OF SUBJECT MATTER | | |
|---|--|---|
| IPC7: A23K 3/03, A23K 3/00 According to International Patent Classification (IPC) or to both national classification and IPC | | |
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| SE,DK,FI,NO classes as above | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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| X | STN International, File CAPLUS, CAPLUS accession no. 1992:549879, Document no. 117:149879, Peop. Rep. China.: "Long-lasting fungicide compositions for feed preservation"; & CN, A 1059454, 19920318 -- | 1-13 |
| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. | | |
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| 26 July 2000 | | 31 -07- 2000 |
| Name and mailing address of the ISA: Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86 | | Authorized officer Eva Johansson/gh Telephone No. +46 8 782 25 00 |

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| P,X | WO 9937168 A1 (PRE GEL S.P.A.), 29 July 1999 (29.07.99), see part. claims 1-2 | 1-2 |
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02/12/99

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PCT/NO 00/00079

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